TOTAL DISSOLVED GAS (TDG) TMDLs
COLUMBIA/SNAKE RIVER MAINSTEM

Questions and Comments
from the July, 2001 Informal Workshops

Oregon and Washington will issue TMDLs for their respective states on TDG on the Columbia and Snake River Mainstem. EPA will be issuing the TDG TMDLs on river segments where tribal water quality standards apply. Below are informal responses to questions and comments raised at the TMDL workshops held in Spokane, Washington and Portland, Oregon on July 23 & 24, 2001 respectively.

These questions and comments have helped to alert the states and others issues of concern to the community. They have already influenced some of the thinking regarding the TDG TMDLs. The meetings, questions and comments were informal in nature.

Formal Public Comment Periods will allow the public to make verbal and/or written comments on the draft TMDLs. All formal comments will be addressed in the final TMDLs under "Response to Comments".

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TOTAL DISSOLVED GAS TMDLs
QUESTIONS FOR IMMEDIATE CLARIFICATION

1. Are you planning to look at the Mass 1 & 2 model by the ACOE? (7/23/01)
We will review this model for use in the TDG TMDLs

2. When does the implementation plan get written? (7/23/01)
In the state of Washington, a Summary Implementation Plan is written after the technical development of the TMDL and included in the submittal package to EPA. During the year following TMDL submittal, a Detailed Implementation Plan is developed. In the state of Oregon a water quality management plan is prepared concurrently with the TMDL and included in the submittal package to EPA.

3. How does the Upper Columbia fit into the Mid-Columbia TMDL process? (7/23/01)
For the TDG analysis, data from the Upper Columbia (upstream of Grand Coulee Dam) must be used as an upstream boundary condition. The impacts of upstream current conditions and potential pollutant reductions can be evaluated through the TMDL technical analysis. The TMDL can then be used as information for decision-making through the Transboundary Gas Group or

other appropriate mechanism.

4. What data set are you considering for the TDG TMDL? Remember the last 5 years are atypical. (7/23/01)
A large volume of data is available through the Fixed Monitoring System and other sources. These data will be evaluated for quality, which includes how representative the data is of overall conditions, or what bias might be introduced to the data from forcing functions such as climate, hydrology, geography, or other.

5. What about the bigger picture - how do other parameters fit into the process. How can you do this right without all the pieces? (7/23/01)
The state of Washington has an annual scoping process for setting TMDL workplans, and recognizes the value of addressing all TMDL listings in the same watershed together. However, due to time and resource limitations the additional Washington TMDL listings in the basin will most likely be addressed following the TDG and Temperature TMDLs. Based on their current understanding, it is unlikely that TMDL analyses for other parameters would significantly change the TMDLs in progress. However, if new information indicated that a review of established TMDLs would be appropriate, this would still be an option. The state of Oregon is currently developing TMDLs for the other listed parameters. These TMDLs are planned to be completed by 2002.

6. Do we want to split the Columbia and Snake up on TDG? We should pay attention to the FERC relicensing. (7/24/01)
Washington will take FERC relicensing needs into account in establishing the schedule for the TMDL, so that information and recommendations developed by the TMDL can be included in relicensing. Their current thinking is to develop the Lower Snake and the Mid-Columbia TDG TMDLs on a separate but parallel track. They will likely begin the Mid-Columbia TMDL development sooner, but take longer in developing it.

7. What is the formal comment period in Oregon for the TDG TMDL? (7/24/01)
Between 30-60 days starting October 2001.

8. Why did EPA not do the interstate TDG? (7/24/01)
The Clean Water Act identifies the states as having the primary responsibility for developing TMDLs. The states are developing the TDG TMDL in accordance with the Clean Water Act. Washington and Oregon have requested EPA's assistance in developing the temperature TMDL, in part to capitalize on the EPA's modeling expertise in this area. EPA will be issuing the TDG TMDLs on river segments where tribal water quality standards apply.

9. Would you look at Rock Island Dam as far as exceeding the standard? (7/24/01)
All the dams on the mainstem of the Lower and Mid-Columbia and Lower Snake River in Washington state will be evaluated for their effect on TDG and temperature relative to state water quality standards.

10. Gas entrainment differs according to dam operation, so how was data collected for the

model? (7/24/01)
Total dissolved gas was measured systematically through a full range of dam operating scenarios.

11. How do you know this data is "right", i.e. QA/QC valid, for establishing boundary conditions? (7/23/01)
Data used in the TMDL development will be reviewed for QA/QC and the variability of the data evaluated. All data has variability, and although it's possible that data may be so highly variable or of poor quality that it will not be used, it's more likely that the data variability will be factored into the TMDL decision-making process, both through the final allocations and the margin of safety.

12. Where do TDG standards have to be met? (7/24/01)
The WQS require that TDG not exceed 110% at all points and times. During the development of the TMDL, the states will determine compliance points for the TMDL.

13. What are Tetra Tech's comments on setting margins of safety at zero on TDG? (7/24/01)
Several factors still need to be considered in determining the margin of safety for the TDG TMDL, such as differences between the compliance monitoring location and the location of the highest TDG, and the confidence interval around the gas production equations. The final margin of safety is unlikely to be "zero". It has yet to be determined if it will be explicit or incorporated implicitly through conservative assumptions in the TMDL analysis.

14. Is the tailrace sampling point representative of cross-sectional difference? (7/24/01)
We will evaluate this and take it into account in the TMDL.

15. What are the effects of temperature on TDG? What assumptions have been made with respect to temperature in the TMDL?
We will evaluate the effect of temperature on TDG in the TDG TMDL.

16. You need to be clear and consistent when measuring TDG and Temperature. You need to measure at specific locations and depths (i.e. above compensation depth for TDG). (7/23/01)
The Fixed Monitoring System for TDG and Temperature monitoring is well established and undergoes thorough QA/QC. The location of source data for TMDL development and long-term monitoring for TMDL compliance must be carefully evaluated and the limitations of location taken into account. This will be done as part of the monitoring plan component of the implementation plan.